

**FORMER UTICA COMPRESSOR STATION
CHARACTERIZATION REPORT**

Licking County, Ohio

September 1999

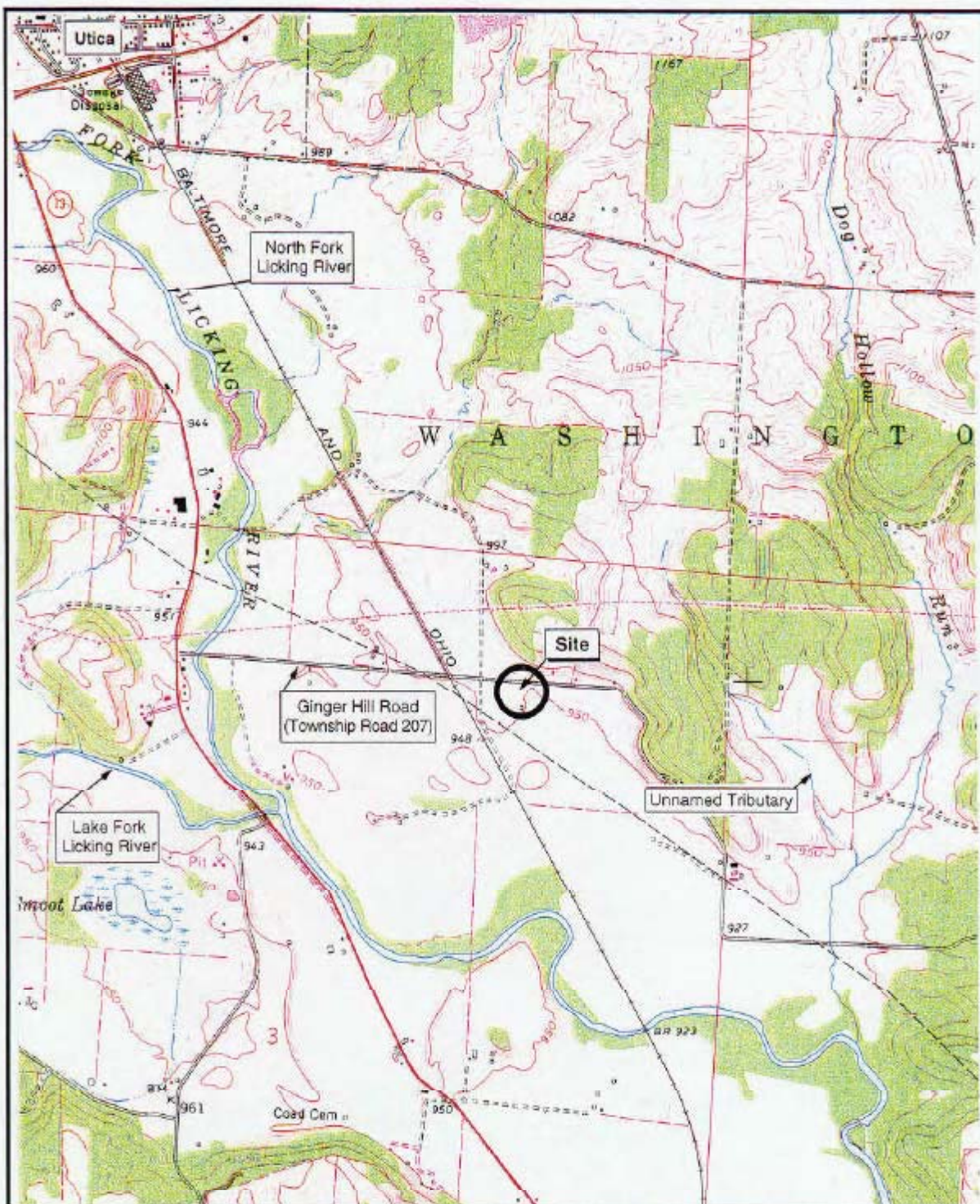
Prepared for

COLUMBIA GAS TRANSMISSION CORPORATION

by

**ROY F. WESTON, INC.
ENVIRONMENTAL STANDARDS, INC.**

16 September, 1999



0 1000 2000

Scale in Feet

Source: U.S.G.S 7 1/2 minute quadrangles,
Utica, Ohio, 1961
photorevised 1970



Quadrangle Location

COLUMBIA GAS TRANSMISSION CORPORATION

SITE LOCATION MAP
FORMER UTICA COMPRESSOR STATION
CHARACTERIZATION REPORT

FIGURE 1-1

1/14/98

2. ENVIRONMENTAL SETTING

2.1 Physical Setting

The site occupies approximately 0.7 acres, with the former operating portion of this facility encompassing an area of approximately 0.2 acres. The site is surrounded by a 5-foot high wire mesh fence topped with barbed wire, and has locking gates for security purposes. The site elevation, based on the Utica, Ohio 7.5 Minute Series USGS Quadrangle Map (Figure 1-1), is approximately 950 feet above msl, with the site being located in a relatively flat area. The site is located in an open area consisting primarily of farmland, where the valley floors are approximately 900 feet above msl, and the surrounding ridge tops are approximately 1,100 to 1,160 feet above msl. The station property slopes moderately from north to south, and topographic relief in the vicinity of the site is moderately steep.

2.2 Climate

The site is located in Licking County, Ohio, which is characterized as having a continental climate, with moderate extremes of heat, cold, wetness, and dryness. The site is located in the central portion of the state, approximately 30 miles northeast of Columbus. Summers in the site region are moderately warm and humid, with an average temperature of 73 °F. Winters are reasonably cold, with an average temperature of 31 °F (Water Information Center, 1974).

The site region receives a mean annual precipitation of 38 inches, with the greatest levels occurring in the spring, and the lowest levels occurring in the fall. Prevailing winds are generally from the south or northwest (Water Information Center, 1974).

2.3 Surface Water Hydrology

The site property is located in an approximate 1-mile wide valley which runs from the northwest to southeast. There are no bodies of water located at the Former Utica Compressor Station. Based on the observed topography, surface water flow across the site property is towards the south, but is generally towards the southwest in the local region. Surface water from the former

operating area would likely infiltrate before reaching the nearest surface water body, the North Fork Licking River, located approximately 0.7 miles southwest of the site.

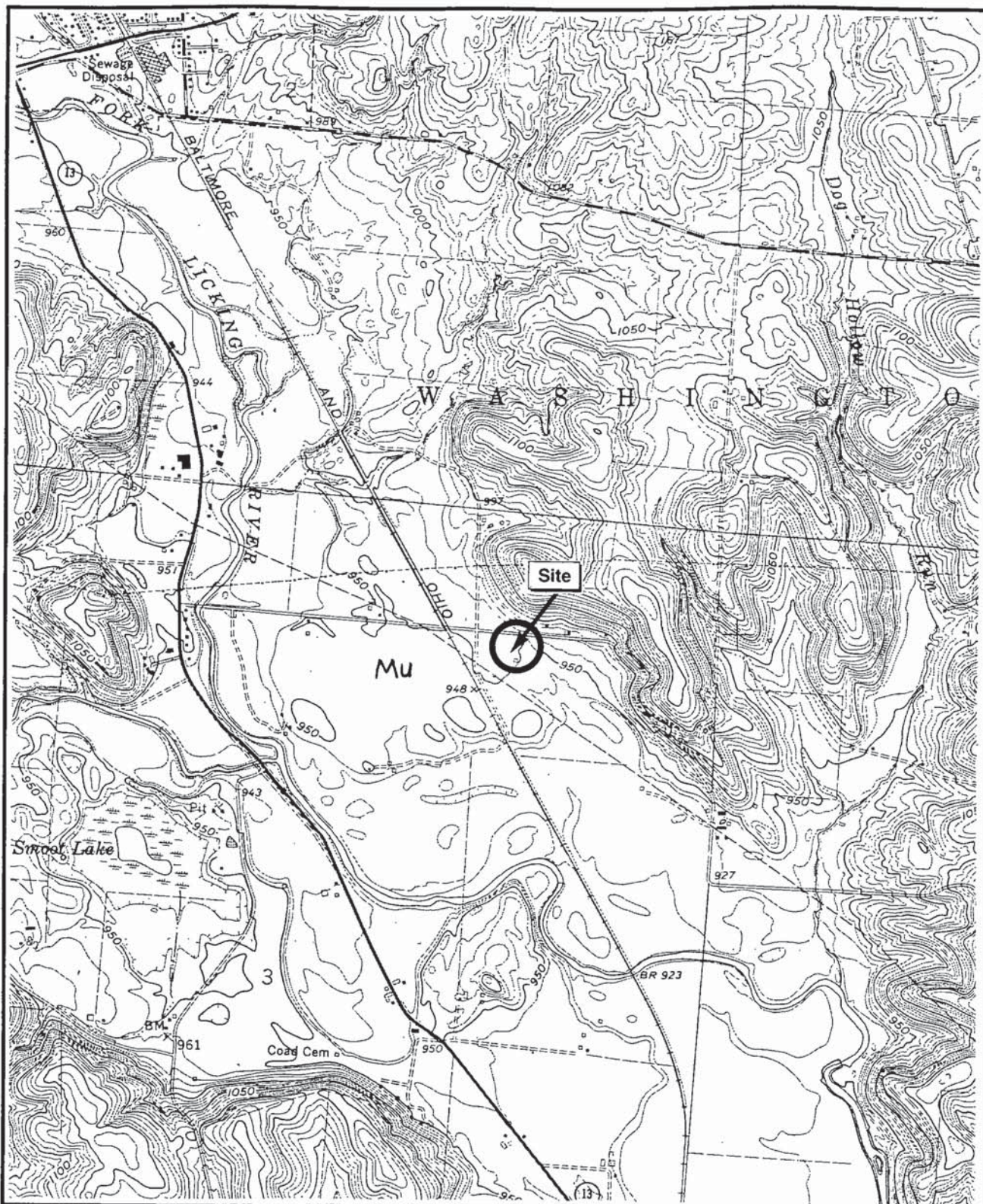
2.4 Geology and Soils

The site is located in the Appalachian Plateaus Province, which is prevalent in the eastern portion of Ohio. The Appalachian Plateaus region is underlain by an eastward-thickening succession of shale, sandstone, and coal-bearing strata of Pennsylvanian Age. The area is unglaciated, but is within 25 miles of the glacial limit. The subsurface geologic units in the vicinity of the site consist primarily of the Mississippian Undivided, which ranges up to approximately 442 feet in thickness (Figure 2-1). This geologic type consists mainly of limestone overlying interbedded shale and sandstone (ODNR, 1997).

Soils in the area of the site, as mapped by the USDA Natural Resource Conservation Service and presented in the Licking County Soil Survey (1992), are the Mentor silt loam (2-6% slopes) and the Fitchville silt loam (0-2% slopes) (Figure 2-2). The Mentor soil typically consists of a brown, friable silt loam surface layer approximately 9 inches thick, underlain with approximately 39 inches of yellowish-brown, friable and firm silt loam. Permeability is moderate, available water capacity is high, and drainage is good. The Fitchville soil typically consists of a dark grayish-brown, friable silt loam surface layer approximately 10 inches thick, underlain with approximately 52 inches of brown/yellowish-brown, mottled, firm silt loam and silty clay loam. Permeability is moderately slow, available water capacity is high, and drainage is somewhat poor.

2.5 Hydrogeology and Groundwater Quality

The Former Utica site area appears to be underlain by a coarse-grained unconsolidated aquifer. This aquifer is generally composed of highly-permeable, relatively coarse sand and gravel, with admixtures of clay and silt. Typical well yield in this material is between 100 to 200 gallons per minute (gpm), though yields may be as high as 2,000 gpm. Virtually all recharge to Ohio's aquifers is from precipitation (USGS, 1985).



0 1,500 3,000
 Scale in Feet

Source: State of Ohio, Department of Natural Resources, Division of Geological Survey, Utica, Ohio 1961, photorevised 1970



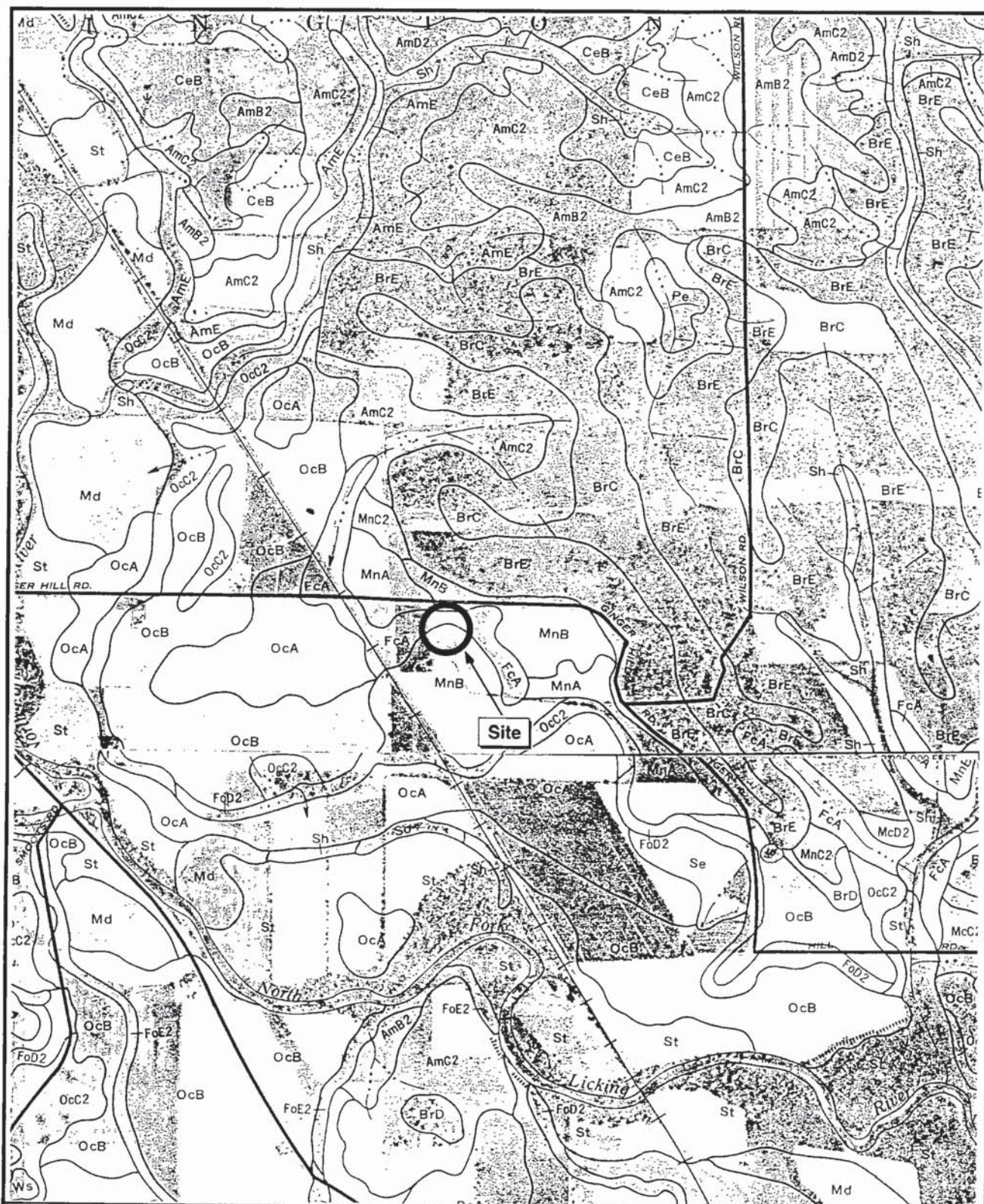
Mu Mississippian Undivided

COLUMBIA GAS TRANSMISSION CORPORATION

SITE GEOLOGY
 FORMER UTICA COMPRESSOR STATION
 CHARACTERIZATION REPORT

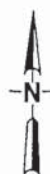
FIGURE 2-1

1/7/98



0 1,000 2,000
 Scale in Feet

Source: Soil Survey of Licking County
 Ohio, May, 1992



MnB Mentor
 FcA Fitchville
 MnA Mentor

COLUMBIA GAS TRANSMISSION CORPORATION

SITE SOILS
 FORMER UTICA COMPRESSOR STATION
 CHARACTERIZATION REPORT

FIGURE 2-2

2/3/98

4.3 Analytical Results for Investigative Samples

A summary of the analytical parameters for each PRA at the site are presented in Table 4-2 of this Characterization Report. Analytical results for the sampling completed are summarized in Table 4-3. As previously stated, sample locations are shown on Figure 3-1. The results are discussed by media and by PRA to facilitate review in the following subsections. Sample results which exceeded CALs and/or background concentrations are indicated on Figure 4-1.

The Comprehensive Analytical Result tables, as prepared by ESI, and the sample chain-of-custody forms (COCs) are included in Appendix D of this Characterization Report. Columbia maintains a hard copy of all analytical data should additional review be needed.

4.3.1 Background Sampling Results

PCBs were not detected in the three background soil samples (ASU007 through ASU009) analyzed for CWP Table 1 Constituents (Table 3-2). Table 4-3 summarizes the results of the background samples. The background soil samples were collected in areas not considered to be impacted by site operations. Laboratory analytical results indicated the presence of various metals at concentrations below the CALs with the exception of arsenic, which was detected in site background samples at concentrations of 18.8 mg/kg (ASU007), 8.5 mg/kg (ASU008), and 13.1 mg/kg (ASU009). The CAL for arsenic is 0.43 mg/kg. VOCs, SVOCs, PCBs, and cyanide were not detected in any of the site background samples.

As provided for in the CWP, the highest concentration of a constituent detected in the background samples, or those presented in Appendix F (U.S. EPA-approved method to calculate background), whichever is higher, will be used to establish the background concentration for this constituent at the site.

**Table 4-3
Summary of Analytical Results**

		PRA	0					
		PRA Description	BACKGROUND					
		Sample Type	Normal Sample					
		Sample Id	UTI-ASU007-70001	UTI-ASU008-70001		UTI-ASU009-70001		
		Depth - ft bgs	1 - 3	1 - 3		1 - 3		
		Collected Date	10/31/97	10/31/97		10/31/97		
		Laboratory	Recra Amherst	Recra Amherst		Recra Amherst		
		Sample Collector	Roy F. Weston, Inc.	Roy F. Weston, Inc.		Roy F. Weston, Inc.		
		Result Units	MG/KG	MG/KG		MG/KG		
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	XYLENES (TOTAL)	160000	ND		ND		ND	
	ACETONE	7800	ND		ND		ND	
METAL	BARIUM, TOTAL	5500	61.6		129		88.1	
	CADMIUM, TOTAL	39	2.1		1.2		1.7	
	CHROMIUM, TOTAL	230	24.0		12.4		13.0	
	LEAD, TOTAL	400	ND		ND		ND	
	NICKEL, TOTAL	1600	22.8		14.5		19.1	
	ARSENIC, TOTAL	.43	18.8	X	8.5	X	13.1	X

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

**Table 4-3
Summary of Analytical Results**

		PRA	1					
		PRA Description	PRA #01 PIPELINE LIQUIDS/USED OIL AT (450 GALLON)					
		Sample Type	Normal Sample					
		Sample Id	UTI-ASU001-70001	UTI-ASU001-70002		UTI-ASU001-70003		
		Depth - ft bgs	0 - 1	2 - 3		4 - 5		
		Collected Date	10/31/97	10/31/97		10/31/97		
		Laboratory	Recra Amherst	Recra Amherst		Recra Amherst		
		Sample Collector	Roy F. Weston, Inc.	Roy F. Weston, Inc.		Roy F. Weston, Inc.		
		Result Units	MG/KG	MG/KG		MG/KG		
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	XYLENES (TOTAL)	160000	ND		ND		ND	
	ACETONE	7800	ND		ND		ND	
METAL	BARIUM, TOTAL	5500	75.5		86.2		85.3	
	CADMIUM, TOTAL	39	1.4		1.8		1.2	
	CHROMIUM, TOTAL	230	11.2		14.5		11.2	
	LEAD, TOTAL	400	ND		ND		ND	
	NICKEL, TOTAL	1600	16.7		19.2		13.4	
	ARSENIC, TOTAL	.43	10.9	X	14.6	X	9.6	X

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

**Table 4-3
Summary of Analytical Results**

		PRA	2					
		PRA Description	PRA #02 NEW OIL UT (550 GALLON)					
		Sample Type	Normal Sample					
		Sample Id	UTI-ASS001-40001	UTI-ASU002-70001		UTI-ASU003-70001		
		Depth - ft bgs	0 - 1	10 - 12		10 - 12		
		Collected Date	10/31/97	10/31/97		10/31/97		
		Laboratory	Recra Amherst	Recra Amherst		Recra Amherst		
		Sample Collector	Roy F. Weston, Inc.	Roy F. Weston, Inc.		Roy F. Weston, Inc.		
		Result Units	MG/KG	MG/KG		MG/KG		
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	XYLENES (TOTAL)	160000	ND		ND		ND	
	ACETONE	7800						
METAL	BARIUM, TOTAL	5500						
	CADMIUM, TOTAL	39						
	CHROMIUM, TOTAL	230						
	LEAD, TOTAL	400						
	NICKEL, TOTAL	1600						
	ARSENIC, TOTAL	.43						

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

**Table 4-3
Summary of Analytical Results**

		PRA	3	4				
		PRA Description	PRA #03 NATURAL GAS BLOW		PRA #04 STAINED AREA			
		Sample Type	Normal Sample		Field Duplicate (Rep)		Normal Sample	
		Sample Id	UTI-ASS002-40001		UTI-ASU004-71002		UTI-ASU004-70001	
		Depth - ft bgs	0 - .5		2 - 3		0 - 1	
		Collected Date	10/31/97		10/31/97		10/31/97	
		Laboratory	Recra Amherst		Recra Amherst		Recra Amherst	
		Sample Collector	Roy F. Weston, Inc.		Roy F. Weston, Inc.		Roy F. Weston, Inc.	
		Result Units	MG/KG		MG/KG		MG/KG	
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	XYLENES (TOTAL)	160000			ND		ND	
	ACETONE	7800			ND		ND	
METAL	BARIUM, TOTAL	5500			81.9 J		100	
	CADMIUM, TOTAL	39			1.5		ND	
	CHROMIUM, TOTAL	230			17.2 J		7.4	
	LEAD, TOTAL	400			ND		ND	
	NICKEL, TOTAL	1600			17.9		ND	
	ARSENIC, TOTAL	.43			11.2	X	6.7	X

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

**Table 4-3
Summary of Analytical Results**

		PRA					5	
		PRA Description					PRA #05 SUMP	
		Sample Type					Field Duplicate (Rep)	
		Sample Id	UTI-ASU004-70002		UTI-ASU004-70003		UTI-ASS003-41001	
		Depth - ft bgs	2 - 3		4 - 5		0 - 1	
		Collected Date	10/31/97		10/31/97		10/31/97	
		Laboratory	Recra Amherst		Recra Amherst		Recra Amherst	
		Sample Collector	Roy F. Weston, Inc.		Roy F. Weston, Inc.		Roy F. Weston, Inc.	
		Result Units	MG/KG		MG/KG		MG/KG	
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	XYLENES (TOTAL)	160000	ND		ND		0.007 J	
	ACETONE	7800	ND		ND		0.40 J	
METAL	BARIUM, TOTAL	5500	46.4 J		57.3		89.1	
	CADMIUM, TOTAL	39	ND		1.6		1.1	
	CHROMIUM, TOTAL	230	9.2 J		15.7		8.6	
	LEAD, TOTAL	400	ND		ND		ND	
	NICKEL, TOTAL	1600	ND		18.5		ND	
	ARSENIC, TOTAL	.43	6.9	X	13.6	X	5.4	X

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

**Table 4-3
Summary of Analytical Results**

		PRA	6					
		PRA Description	PRA #06 SUCTION REGULATOR					
		Sample Type	Normal Sample	Normal Sample				
		Sample Id	UTI-ASS003-40001	UTI-ASU005-70001		UTI-ASU005-70002		
		Depth - ft bgs	0 - 1	0 - 1		2 - 3		
		Collected Date	10/31/97	10/31/97		10/31/97		
		Laboratory	Recra Amherst	Recra Amherst		Recra Amherst		
		Sample Collector	Roy F. Weston, Inc.	Roy F. Weston, Inc.		Roy F. Weston, Inc.		
		Result Units	MG/KG	MG/KG		MG/KG		
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	XYLENES (TOTAL)	160000	ND		ND		ND	
	ACETONE	7800	0.42 J					
METAL	BARIUM, TOTAL	5500	91.4					
	CADMIUM, TOTAL	39	1.3					
	CHROMIUM, TOTAL	230	11.5					
	LEAD, TOTAL	400	ND					
	NICKEL, TOTAL	1600	13.4					
	ARSENIC, TOTAL	.43	7.8	X				

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

**Table 4-3
Summary of Analytical Results**

		PRA	7					
		PRA Description	PRA #07 DISPLACEMENT METER					
		Sample Type	Normal Sample					
		Sample Id	UTI-ASU005-70003	UTI-ASU006-70001		UTI-ASU006-70002		
		Depth - ft bgs	4 - 5	0 - 1		2 - 3		
		Collected Date	10/31/97	10/31/97		10/31/97		
		Laboratory	Recra Amherst	Recra Amherst		Recra Amherst		
		Sample Collector	Roy F. Weston, Inc.	Roy F. Weston, Inc.		Roy F. Weston, Inc.		
		Result Units	MG/KG	MG/KG		MG/KG		
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	XYLENES (TOTAL)	160000	ND		ND		ND	
	ACETONE	7800						
METAL	BARIUM, TOTAL	5500						
	CADMIUM, TOTAL	39						
	CHROMIUM, TOTAL	230						
	LEAD, TOTAL	400						
	NICKEL, TOTAL	1600						
	ARSENIC, TOTAL	.43						

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

**Table 4-3
Summary of Analytical Results**

		PRA	8					
		PRA Description	PRA #08 FENCE LINES					
		Sample Type	Normal Sample					
		Sample Id	UTI-ASU006-70003	UTI-ASS004-40001		UTI-ASS005-40001		
		Depth - ft bgs	4 - 5	0 - 1		0 - 1		
		Collected Date	10/31/97	10/31/97		10/31/97		
		Laboratory	Recra Amherst	Recra Amherst		Recra Amherst		
		Sample Collector	Roy F. Weston, Inc.	Roy F. Weston, Inc.		Roy F. Weston, Inc.		
		Result Units	MG/KG	MG/KG		MG/KG		
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*	Result Flag	> CAL*
VOA	XYLENES (TOTAL)	160000	ND		ND		ND	
	ACETONE	7800			ND		ND	
METAL	BARIUM, TOTAL	5500			111		64.6	
	CADMIUM, TOTAL	39			ND		1.4	
	CHROMIUM, TOTAL	230			7.3		9.4	
	LEAD, TOTAL	400			ND		31.8	
	NICKEL, TOTAL	1600			ND		14.2	
	ARSENIC, TOTAL	.43			6.6	X	12.3	X

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.

**Table 4-3
Summary of Analytical Results**

		PRA				
		PRA Description				
		Sample Type				
		Sample Id	UTI-ASS006-40001		UTI-ASS007-40001	
		Depth - ft bgs	0 - 1		0 - 1	
		Collected Date	10/31/97		10/31/97	
		Laboratory	Recra Amherst		Recra Amherst	
		Sample Collector	Roy F. Weston, Inc.		Roy F. Weston, Inc.	
		Result Units	MG/KG		MG/KG	
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*
VOA	XYLENES (TOTAL)	160000	ND		ND	
	ACETONE	7800	ND		ND	
METAL	BARIUM, TOTAL	5500	105		87.1	
	CADMIUM, TOTAL	39	ND		1.3	
	CHROMIUM, TOTAL	230	8.6		11.1	
	LEAD, TOTAL	400	ND		ND	
	NICKEL, TOTAL	1600	12.2		12.3	
	ARSENIC, TOTAL	.43	7.3	X	9.2	X

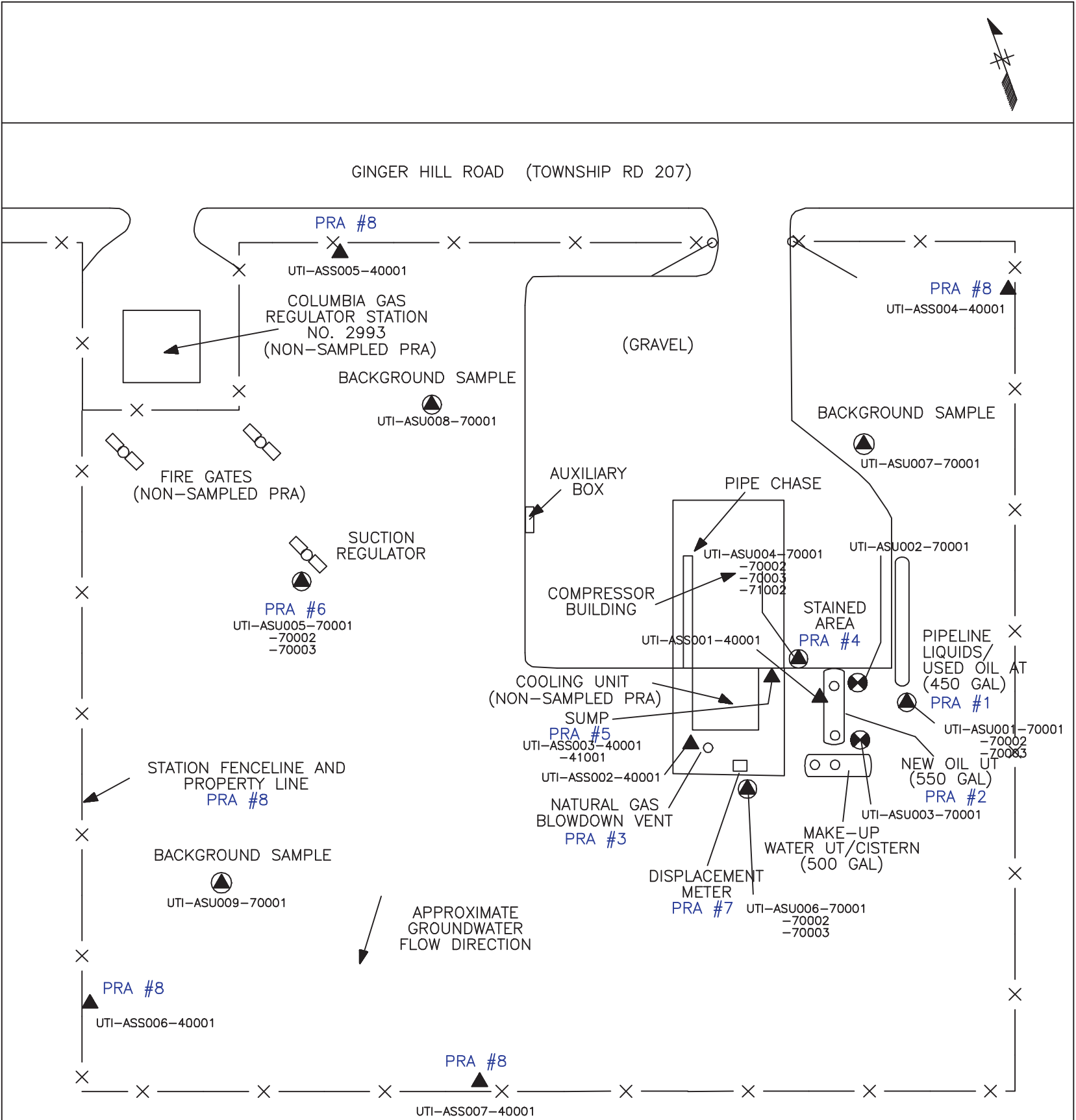
Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.

J flag - Numerical value is an estimated quantity.

ND indicates Non-Detect

Blank cells in result column indicate an analysis was not performed for that analyte.



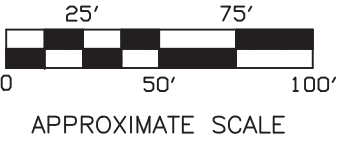
LEGEND:


- ▲ SURFACE SOIL / SEDIMENT SAMPLE LOCATION
- ⊗ AT DEPTH SAMPLE LOCATION
- SURFACE AND SUBSURFACE SOIL SAMPLE LOCATION

UTI-ASB001-70001 EXAMPLE SAMPLE ID
UTI - SITE
ASB001 - LOCATION ID
70001 - SAMPLE ID

NOTES:
NO CALS AND/OR BACKGROUND CONCENTRATIONS WERE EXCEEDED.

GROUNDWATER FLOW DIRECTION IS NOT BASED ON THE COLLECTION OF FIELD DATA AND MAY NOT REPRESENT ACTUAL CONDITIONS



		FIGURE 4-1 ANALYTICAL RESULTS WHICH EXCEED CALS AND/OR BACKGROUND LEVELS	
FORMER UTICA COMPRESSOR STATION LICKING COUNTY, OHIO CHARACTERIZATION REPORT			
CLIENT: COLUMBIA GAS TRANSMISSION CORPORATION			
FIELD SKETCHED BY: AD		08/18/97	W.O. NO. 10873-097 FIGURE: 4-1
DRWN: CR		01/15/98	FILE: UTICA

4.3.2 Soil Potential Release Areas

PRA #1 Pipeline Liquids/Used Oil AT (450 gal)

Three soil samples (associated with soil boring ASU001) were collected adjacent to the pipeline liquids/used oil AT (450 gal). No concentrations of VOCs, SVOCs, PCBs, mercury, or cyanide were detected in any of the samples. The samples were also analyzed for Table 1 metals, and only arsenic was detected above the respective CAL, at levels ranging from 9.6 to 14.6 mg/kg. These results are below the concentrations of arsenic detected in the site background samples.

PRA #2 New Oil UT (550 gal)

One surface soil sample (ASS001) and two subsurface soil samples (associated with soil borings ASU002 and ASU003) were collected adjacent to the new oil UT (550 gal). No concentrations of BTEX were detected in any of these samples.

PRA #3 Natural Gas Blowdown Vent

One surface soil sample (ASS002) was collected adjacent to, and downgradient of, the natural gas blowdown vent. No concentrations of PCBs were detected in this sample.

PRA #4 Stained Area

Three soil samples (associated with soil boring ASU004), plus one duplicate sample, were collected from the stained area adjacent to the compressor building. No concentrations of VOCs, SVOCs, PCBs, mercury, or cyanide were detected in any of the samples. The samples were also analyzed for Table 1 metals, and only arsenic was detected above the respective CAL, at concentrations ranging from 6.7 to 13.6 mg/kg. These results are below the site background level for arsenic.

PRA #6 Suction Regulator

Three soil samples (associated with soil boring ASU005) were collected adjacent to the suction regulator. No concentrations of BTEX or PCBs were detected in any of the samples.

PRA #7 Displacement Meter

Three soil samples (associated with soil boring ASU006) were collected adjacent to the displacement meter. No concentrations of BTEX or PCBs were detected in any of the samples.

PRA #8 Fence Lines

Four surface soil samples were collected from the north (ASS005), south (ASS007), east (ASS004), and west (ASS006) sides of the station fence line. No concentrations of VOCs, SVOCs, PCBs, mercury, or cyanide were detected in any of the samples. The samples were also analyzed for Table 1 metals, and only arsenic was detected above the respective CAL, at concentrations ranging from 6.6 to 12.3 mg/kg. These results are below the site background level for arsenic.

4.3.3 Sediment Potential Release Areas

PRA #5 Sump

One sediment sample (ASS003), plus one duplicate sample, were collected from the sump located adjacent to the cooling unit. No concentrations of SVOCs, PCBs, mercury, or cyanide were detected in either of the samples. Acetone was detected in both samples at concentrations of 0.42 J and 0.40 J, and total xylenes were detected in the duplicate sample at a concentration of 0.007 J. These results are all below the respective CALs.

The samples were also analyzed for Table 1 metals, and only arsenic was detected above the CAL, at concentrations of 7.8 and 5.4 mg/kg, respectively. These results are below the site background level for arsenic.

4.4 Quality Assurance/Quality Control Criteria Assessment

The following is a summary of the overall QA/QC criteria assessment for analytical data generated as a result of the Former Utica site characterization. This summary reflects the general trends throughout the sampling event contained within batch COC0029027. To facilitate review

APPENDIX C

BORING LOG SUMMARY

LOCATION ID	TOTAL DEPTH	BDRK DPTH	WELL INSTL	SURFACE ELEVATION	NORTH COORDINATE	EAST COORDINATE	DATE STARTED	DATE COMPLETED	SITE NAME
UTI-SS001	1.00	0.00	N	0.000	0.0000	0.0000	10/31/97	10/31/97	PRA #2
UTI-SS002	1.00	0.00	N	0.000	0.0000	0.0000	10/31/97	10/31/97	PRA #3
UTI-SS005	0.01	0.00	N	0.000	0.0000	0.0000	10/31/97	10/31/97	PRA #8
UTI-SU001	5.00	0.00	N	0.000	0.0000	0.0000	10/31/97	10/31/97	PRA #1
UTI-SU002	12.00	0.00	N	0.000	0.0000	0.0000	10/31/97	10/31/97	PRA #2
UTI-SU003	12.00	0.00	N	0.000	0.0000	0.0000	10/31/97	10/31/97	PRA #2
UTI-SU004	5.00	0.00	N	0.000	0.0000	0.0000	10/31/97	10/31/97	PRA #4
UTI-SU005	5.00	0.00	N	0.000	0.0000	0.0000	10/31/97	10/31/97	PRA #6
UTI-SU006	5.00	0.00	N	0.000	0.0000	0.0000	10/31/97	10/31/97	PRA #7
UTI-SU007	3.00	0.00	N	0.000	0.0000	0.0000	10/31/97	10/31/97	PRA #8
UTI-SU008	3.00	0.00	N	0.000	0.0000	0.0000	10/31/97	10/31/97	BACKGROUND
UTI-SU009	3.00	0.00	N	0.000	0.0000	0.0000	10/31/97	10/31/97	BACKGROUND

BOREHOLE /WELL ID	SMP NUM	LTH NUM	LITHOLOGY INT. (FT BGS)	LITHOLOGY						PLAS-	SORT-	CLASSIFICATION	
				TYPE	GRAVEL	SAND	SILT	CLAY	ORGANIC	TICITY	ING		
UTI-SS001	1	1	0.00	1.00	OVER	25	50	25	0	0	NON	POR	Silty sand w/gravel, SM
UTI-SU001	1	1	0.00	1.00	OVER	20	50	30	0	0	LOW	POR	Silty sand w/gravel, SM
UTI-SU001	2	1	1.00	2.00	OVER	0	0	0	0	0			Interval Not Sampled
UTI-SU001	3	1	2.00	3.00	OVER	20	50	30	0	0	LOW	POR	Silty sand w/gravel, SM
UTI-SU001	4	1	3.00	4.00	OVER	0	0	0	0	0			Interval Not Sampled
UTI-SU001	5	1	4.00	5.00	OVER	20	50	30	0	0	LOW	POR	Silty sand w/gravel, SM
UTI-SU002	1	1	0.00	10.00	OVER	0	0	0	0	0			Interval Not Sampled
UTI-SU002	2	1	10.00	12.00	OVER	10	40	40	10	0	MOD	POR	Silty sand, SM
UTI-SU003	1	1	0.00	10.00	OVER	0	0	0	0	0			Interval Not Sampled
UTI-SU003	2	1	10.00	12.00	OVER	10	40	40	10	0	MOD	POR	Silty sand, SM
UTI-SU004	1	1	0.00	1.00	OVER	25	40	35	0	0	NON	POR	Silty sand w/gravel, SM
UTI-SU004	2	1	1.00	2.00	OVER	0	0	0	0	0			Interval Not Sampled
UTI-SU004	3	1	2.00	3.00	OVER	25	40	35	0	0	NON	POR	Silty sand w/gravel, SM
UTI-SU004	4	1	3.00	4.00	OVER	0	0	0	0	0			Interval Not Sampled
UTI-SU004	5	1	4.00	5.00	OVER	25	40	35	0	0	NON	POR	Silty sand w/gravel, SM
UTI-SU005	1	1	0.00	1.00	OVER	0	25	65	10	0	LOW	MOD	Silt with sand, ML
UTI-SU005	2	1	1.00	2.00	OVER	0	0	0	0	0			Interval Not Sampled
UTI-SU005	3	1	2.00	3.00	OVER	0	25	65	10	0	LOW	MOD	Silt with sand, ML
UTI-SU005	4	1	3.00	4.00	OVER	0	0	0	0	0			Interval Not Sampled
UTI-SU005	5	1	4.00	5.00	OVER	0	25	65	10	0	LOW	MOD	Silt with sand, ML
UTI-SU006	1	1	0.00	1.00	OVER	0	25	65	10	0	LOW	MOD	Silt with sand, ML
UTI-SU006	2	1	1.00	2.00	OVER	0	0	0	0	0			Interval Not Sampled
UTI-SU006	3	1	2.00	3.00	OVER	0	25	65	10	0	LOW	MOD	Silt with sand, ML
UTI-SU006	4	1	3.00	4.00	OVER	0	0	0	0	0			Interval Not Sampled
UTI-SU006	5	1	4.00	5.00	OVER	0	25	65	10	0	LOW	MOD	Silt with sand, ML
UTI-SU007	1	1	0.00	1.00	OVER	0	0	0	0	0			Interval Not Sampled
UTI-SU007	2	1	1.00	3.00	OVER	20	60	20	0	0	LOW	POR	Silty sand w/gravel, SM
UTI-SU008	1	1	0.00	1.00	OVER	0	0	0	0	0			Interval Not Sampled
UTI-SU008	2	1	1.00	3.00	OVER	0	25	65	10	0	LOW	MOD	Silt with sand, ML
UTI-SU009	1	1	0.00	1.00	OVER	0	0	0	0	0			Interval Not Sampled
UTI-SU009	2	1	1.00	3.00	OVER	0	25	65	10	0	LOW	MOD	Silt with sand, ML

Roy F. Weston, Inc.
GEOLIS Identification Codes

LITHOLOGY TYPE

OVER = Overburden

PLASTICITY

NON = None [the soil cannot be threaded or the thread is 1/4 inch (6 mm) or larger and water quickly (1 or 2 blows) appears after shaking and striking]

LOW = Low [the thread is larger than 1/16 inch (1.6 mm) in diameter and water appears after 5 or less blows of the hand]

MOD = Medium [the thread is less than 1/16 inch (1.6 mm) in diameter and water only appears after more than 5 blows of the hand]

HGH = High [the thread is less than 1/64 inch (0.4 mm) in diameter and no water appears when sample is shaken]

NA = Not Applicable

SORTING

WEL = Well sorted (poorly graded - uniform grain size)

MOD = Medium sorted

POR = Poorly sorted (well graded - mix of grain sizes)

NA = Not Applicable

APPENDIX F

CALCULATION OF ARSENIC BACKGROUND CONCENTRATION

Former Utica CS

Calculation of Arsenic Background Concentration:

UTI-ASU007-70001 = 18.8 mg/kg

UTI-ASU008-70001 = 8.5 mg/kg

UTI-ASU009-70001 = 13.1 mg/kg

Average = 13.5 mg/kg

Arsenic concentration to be used as the background level is:

13.5 mg/kg (Average) X 2 = 27.0 mg/kg

Note: Calculations based on “Data Collection and Evaluation, Human Health Risk Assessment Bulletin No. 2, Supplemental Guidance to RAGs,” Office of Technical Services, USEPA Region IV, October 1996.